

M3R, M4R: Control valve with threaded connection, PN 10

How energy efficiency is improved

Supply from both sides and the linear characteristic enable energy-efficient working

Features

- M3R: 3-way valves with nominal diameters DN 15...50
- M4R: 4-way valves with nominal diameters DN 20...50
- Used in combination with the ADM 322 and ASM 105, 115, 124 motorised actuators
- Manual adjustment by means of lever and end stops
- Brass body and gate
- ABS lever
- Double O-ring of EPDM ensures the tightness of the seal at the spindle



M3R015F200



M3R0**F200



M4R0**F200

Technical data

Parameters		
	Nominal pressure	10 bar
	Angle of rotation	90°
	Valve characteristic	Linear
Ambient conditions		
	Operating temperature	2...110 °C
	Operating pressure	Max. 10 bar

Overview of types

Type	Nominal diameter	K _{VS} value	Leakage rate in % of K _{VS}	Weight
M3R015F200	DN 15 (Rp½)	2.5 m³/h	1 %	0.8 kg
M3R020F200	DN 20 (Rp¾)	6 m³/h	1 %	0.7 kg
M3R025F200	DN 25 (Rp1)	12 m³/h	1 %	1.2 kg
M3R032F200	DN 32 (Rp1¼)	18 m³/h	1 %	1.2 kg
M3R040F200	DN 40 (Rp1½)	26 m³/h	1 %	2.2 kg
M3R050F200	DN 50 (Rp2)	40 m³/h	1 %	2.3 kg
M4R020F200	DN 20 (Rp¾)	6 m³/h	1.5 %	0.8 kg
M4R025F200	DN 25 (Rp1)	12 m³/h	1.5 %	1.2 kg
M4R032F200	DN 32 (Rp1¼)	18 m³/h	1.5 %	1.3 kg
M4R040F200	DN 40 (Rp1½)	26 m³/h	1.5 %	2.3 kg
M4R050F200	DN 50 (Rp2)	40 m³/h	1.5 %	2.5 kg

💡 M3R0**F200: 3-way valve: Body, cover, front gate and spindle made of brass

💡 M4R0**F200: 4-way valve: Body, cover, front gate and spindle made of brass

Accessories

Type	Description
0510240013	ADM322 mounting kit with M3R, M4R, MH32, MH42
0361977001	Assembly materials for M3R/M4R, MH32F/MH42F with ASM 124
0361977002	Assembly materials for M3R/M4R, MH32F/MH42F with ASM 105, 115



Combination of M3R/M4R with electric actuators

i *Warranty: The technical data and pressure differences indicated here are applicable only in combination with SAUTER valve actuators. The warranty does not apply if used with valve actuators from other manufacturers.*

i *Definition of Δp_s : Maximum admissible pressure drop in the event of a malfunction (pipe break after control valve) at which the actuator reliably closes the valve by means of a return spring.*

i *Definition of Δp_{max} : Maximum admissible pressure drop in control mode at which the actuator reliably opens and closes the valve.*

Actuator	ASM105F100	ASM105F120	ASM105F122	ASM105SF132	ASM115F120	ASM115F122	ASM115SF132
Torque	5 Nm	5 Nm	5 Nm	5 Nm	10 Nm	10 Nm	10 Nm
Control signal	2-/3-point	2-/3-point	2-/3-point	2-/3-point, 0...10 V	2-/3-point	2-/3-point	2-/3-point, 0...10 V
Running time	30 s	120 s	120 s	35/60/120 s	120 s	120 s	60/120 s
Operating voltage	230 V~	230 V~	24 V~	24 V =/~	230 V~	24 V~	24 V =/~

 Δp [bar]

As control valve	Δp_{max}	Δp_{max}	Δp_{max}	Δp_{max}	Δp_{max}	Δp_{max}	Δp_{max}
M3R015F200	2.0	2.0	2.0	2.0	–	–	–
M3R020F200	1.0	1.0	1.0	1.0	–	–	–
M4R020F200							
M3R025F200	1.0	1.0	1.0	1.0	1.0	1.0	1.0
M3R032F200							
M3R040F200							
M3R050F200							
M4R025F200							
M4R032F200							
M4R040F200							
M4R050F200							


Cannot be used as distribution valve

Actuator	ADM322F120 ADM322F122 ADM322HF120 ADM322HF122 ADM322PF120 ADM322PF122	ADM322SF122 ADM322SF152	ASM124F120 ASM124F122	ASM124SF132
Torque	15 Nm	15 Nm	18 Nm	15 Nm
Control signal	3-point	2-/3-point, 0...10 V	2-/3-point	2-/3-point, 0...10 V
Running time	120 s	30/60/120 s	120 s	60/120 s
Operating voltage	24 V~/= / 230 V	24 V~/=	24 V~/= / 230 V	24 V~/= / 230 V

 Δp [bar]

As control valve	Δp_{max}	Δp_{max}	Δp_{max}	Δp_{max}
M3R015F200	2.0	2.0	–	–
M3R020F200	1.0	1.0	–	–
M3R025F200				
M4R020F200				
M4R025F200				
M3R032F200	1.0	1.0	1.0	1.0
M3R040F200				
M3R050F200				
M4R032F200				
M4R040F200				
M4R050F200				

Cannot be used as distribution valve

 *Accessories required: Assembly materials; see accessories. With ASM 124, it is not possible to fit auxiliary contacts or a potentiometer*

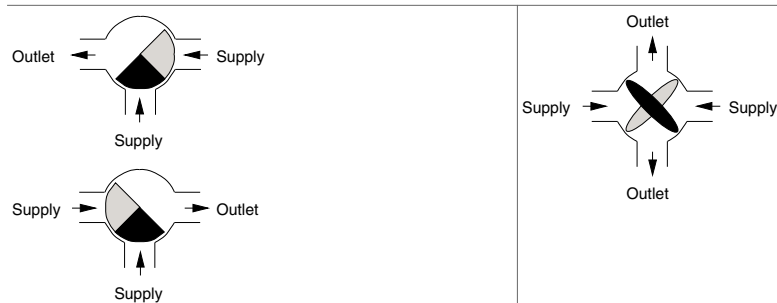
Description of operation

When the spindle is turned, the hot-water inlet is opened continuously and the cold-water inlet (heater return flow) is closed to the same degree. As a result, the temperature of the mixed water increases (heating supply) at a practically constant flow rate.

When the hot-water inlet is closed, a by-pass to the boiler return is simultaneously opened at the 4-way valve so that thermal circulation is possible.

A reversible actuator with a 90° angle of rotation is suitable for automatic activation. After the coupling is disengaged, the gate can be adjusted manually.

Schematic



Intended use

This product is only suitable for the purpose intended by the manufacturer, as described in the "Description of operation" section.

All related product regulations must also be adhered to. Changing or converting the product is not admissible.

Additional technical data

Body made of unsprayed brass. Threaded holes for mounting the console and the motorised actuator.

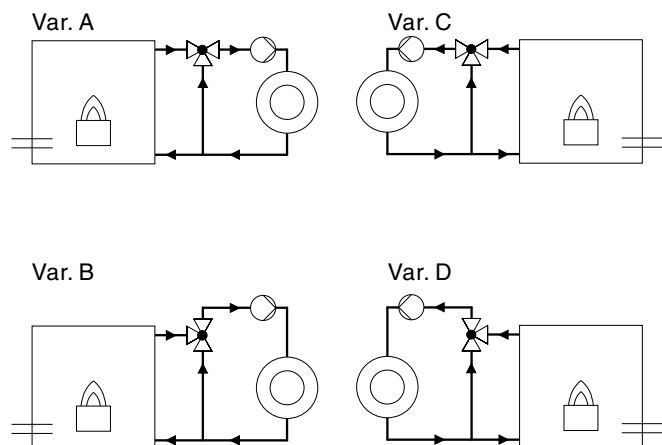
Lever for manual adjustment made of ABS. Scale labelled on both sides for the installation types:

Boiler supply from left or boiler supply from right.

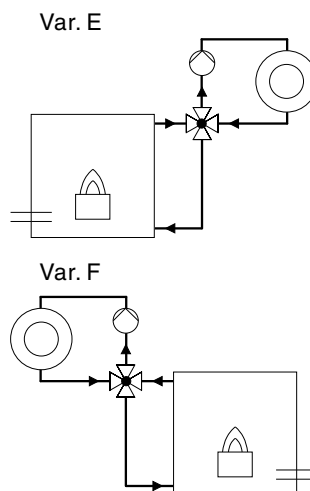
Delivery includes the ABS lever.

Application example

M3R



M4R



Engineering and fitting notes

All control valves must be used in closed circuits only. An excessively high oxygen mixture may destroy the control valves in open circuits. To avoid this, an oxygen binding agent must be used; here the compatibility must be clarified with the manufacturer with regard to corrosion. The material list can be used for this - see MD 54.026. Requirements for water quality as per VDI 2035.

Using with water

When using water mixed with glycol or an inhibitor, the compatibility of the materials and seals used in the control valves should be clarified with the manufacturer. When glycol is used, we recommend using a concentration of between 20% and 50%.

Fitting position

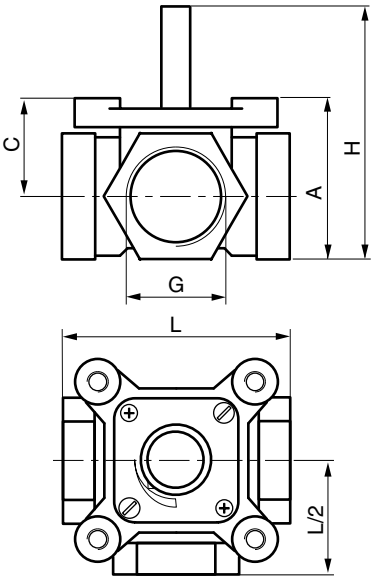
The control unit can be fitted in any position, but the hanging position is not recommended. Condensate, drops of water, etc. must be prevented from entering the actuator.

Disposal

When disposing of the product, observe the currently applicable local laws.
More information on materials can be found in the Declaration on materials and the environment for this product.

Dimension drawing of M3R

DN 15...50



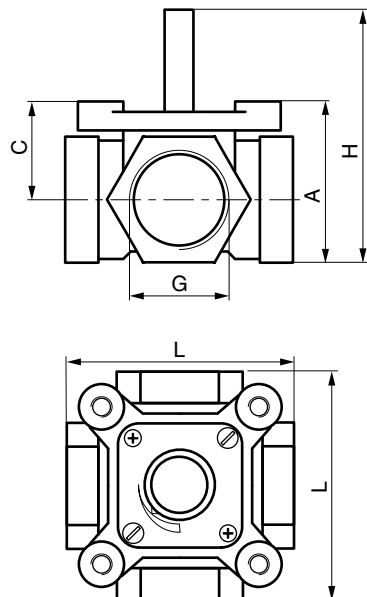
DN	G	L	A	H	C
15	Rp ½	80	51.5	79.5	34.5
20	Rp ¾	80	51.5	79.5	34.5
25	Rp 1	88	62	90	37
32	Rp 1¼	85	62	90	37
40	Rp 1½	116	73.5	101.5	41
50	Rp 2	125	76.5	104.5	41

Combinations

<p>M3R 3-way control valves with actuator ADM 322</p> <p>0510240013</p>	<p>M3R 3-way control valves with actuator ASM124</p> <p>361977 001</p> <p>DN15; DN20(F210)</p>
<p>3-way control valves with actuator ASM105/115</p> <p>361977 002</p> <p>DN15; DN20(F210)</p>	

Dimension drawing for M4R

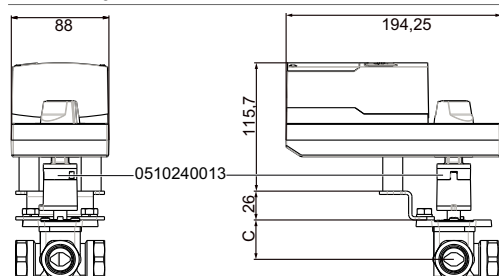
DN 20...50



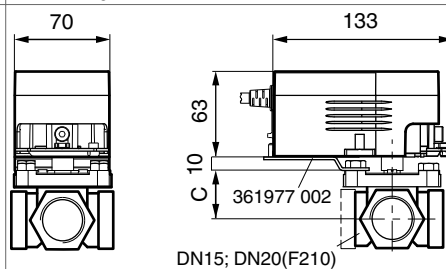
DN	G	L	A	H	C
20	Rp ¾	80	51.5	79.5	34.5
25	Rp 1	88	62	90	37
32	Rp 1¼	85	62	90	37
40	Rp 1½	116	73.5	101.5	41
50	Rp 2	125	76.5	104.5	41

Combinations

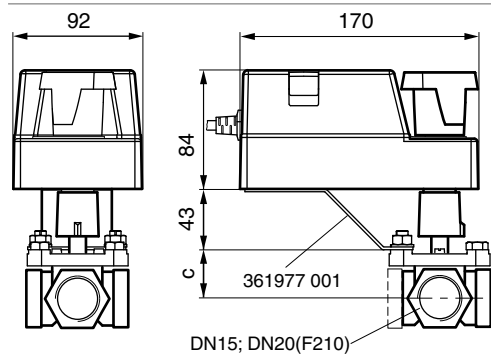
M4R 4-way control valves with actuator ADM 322



M4R 4-way control valves with actuator ASM105/115



M4R 4-way control valves with actuator ASM124



Fr. Sauter AG
Im Surinam 55
CH-4016 Basel
Tel. +41 61 - 695 55 55
www.sauter-controls.com